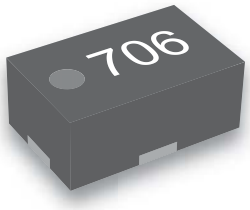
MMA706
DC to 6 GHz Amplifier

AEROFLEX
A passion for performance.



2012 OUTLINE

Description:

The MMA706 is a fully matched amplifier fabricated in Aeroflex / Metelics reliable InGap HBT technology. The economical, low parasitic molded package provides state-of-the-art wideband performance.

Features:

- DC - 6 GHz Broadband Gain Block
- ± 0.5 dB Typical Gain Flatness
- 50 Ohms Input/Output Impedances

RF Specifications:

Parameter	Term	Minimum	Typical	Maximum	Units
3dB Bandwidth	BW	DC	- - -	9	GHz
Frequency Range	f_O	DC	- - -	6	GHz
Gain	G_P	13.5	14.5	- - -	dB
Output Power	P_{1dB}	+13	+14	- - -	dBm
Standing Wave Ratio	VSWR	- - -	1.5:1	2.0:1	- - -
3rd Order Intercept Point	IP3	+21	+27	- - -	dBm
Noise Figure	NF	- - -	3.8	4.2	dB
Device Current	I_C	42	45	55	mA

NOTES:
1. T_A = +25 °C.
2. V_S = 6.0 Vdc, R_{BIAS} = 22 Ω
3. IP3 measured with two tones offset 10 MHz at 0 dBm per tone.

Absolute Maximum Ratings:

Parameters	Rating
Device Current (I_C)	80 mA
RF Input Power, continuous	+10 dBm
Operating Temperature	-40 to +85 °C
Storage Temperature	-55 to +125 °C
Thermal Resistance (θ_{JC})	125 °C/W

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METELICS

Revision Date: 12/01/04

Typical RF Performance:

Figure 1.

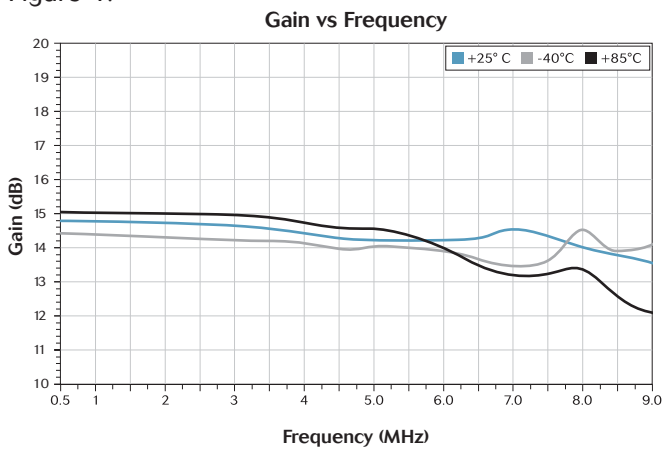


Figure 2.

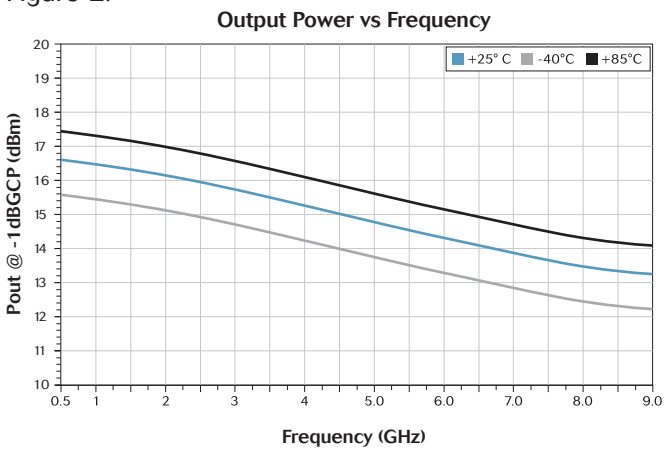


Figure 3.

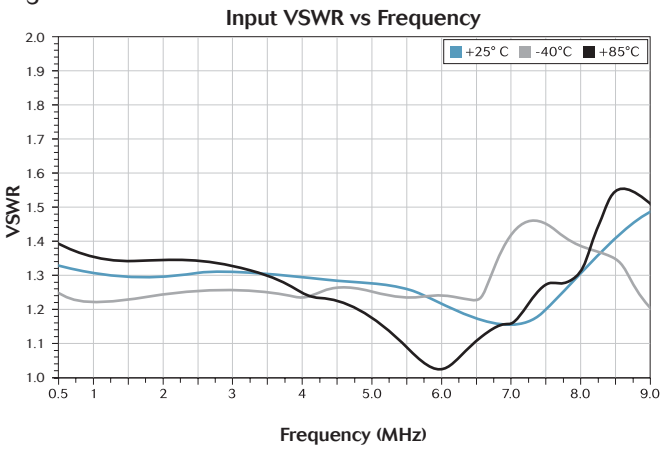


Figure 4.

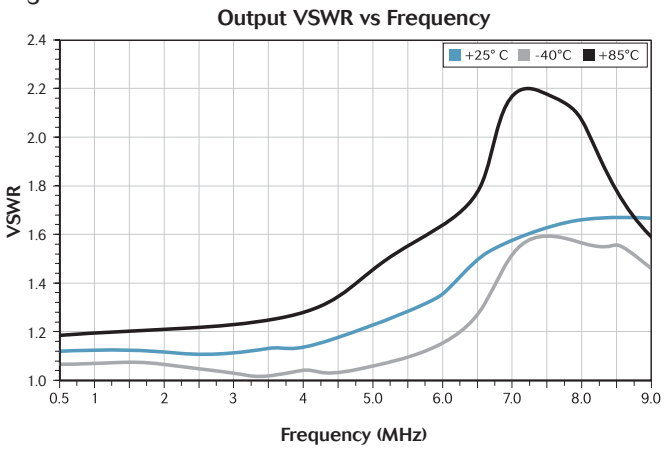


Figure 5.

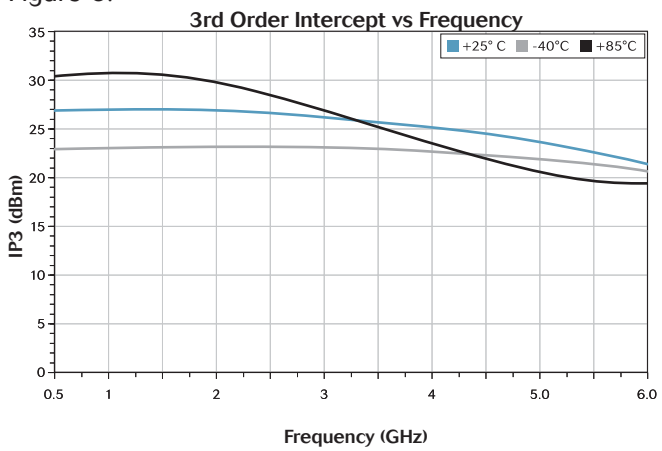
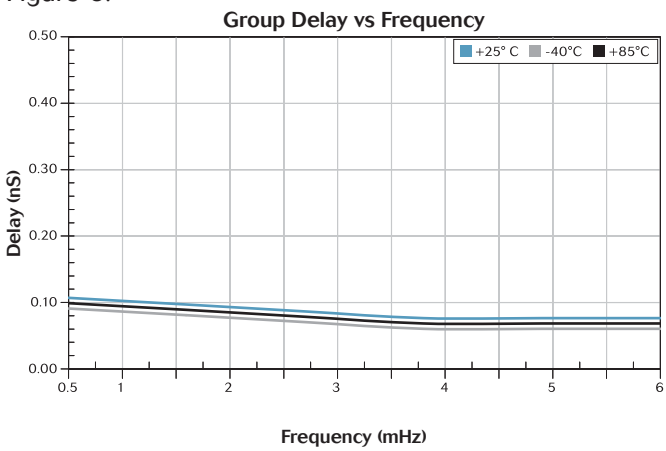


Figure 6.



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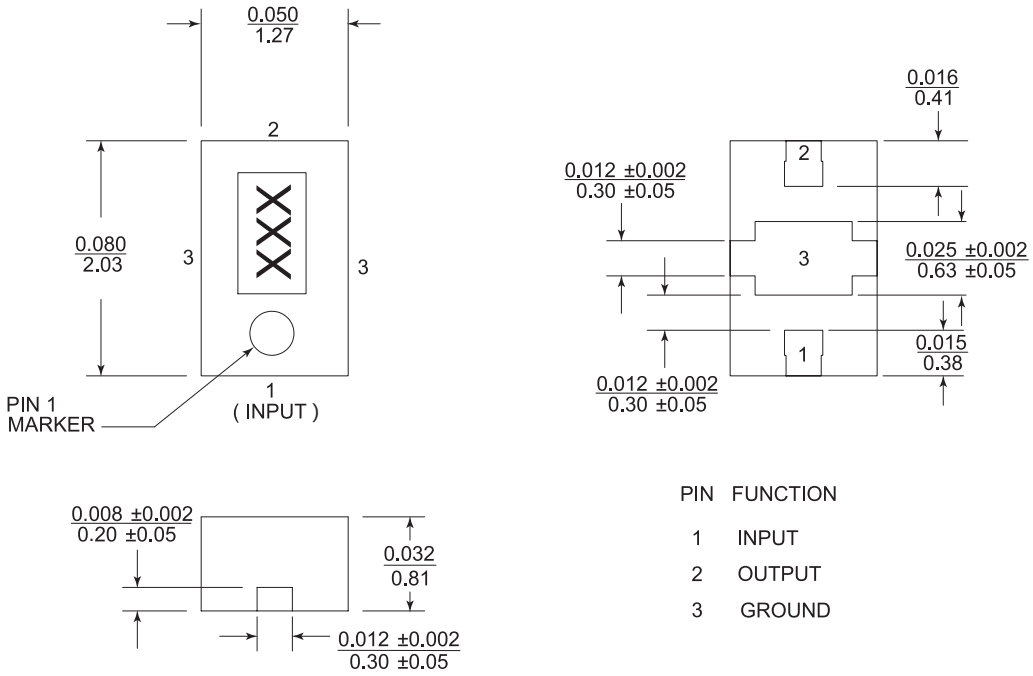
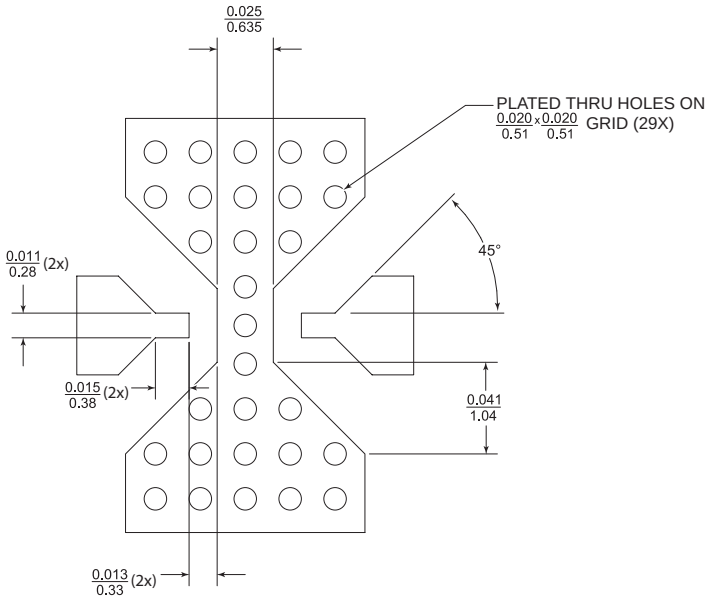
SOT89 Outline Dimensions:



PIN	FUNCTION
1	INPUT
2	OUTPUT
3	GROUND

ALL DIMENSIONS ±0.003 INCH / 0.07 MM

Recommended PCB Layout:



ALL DIMENSIONS ±0.001 INCH / 0.02 MM

AEROFLEX METELICS

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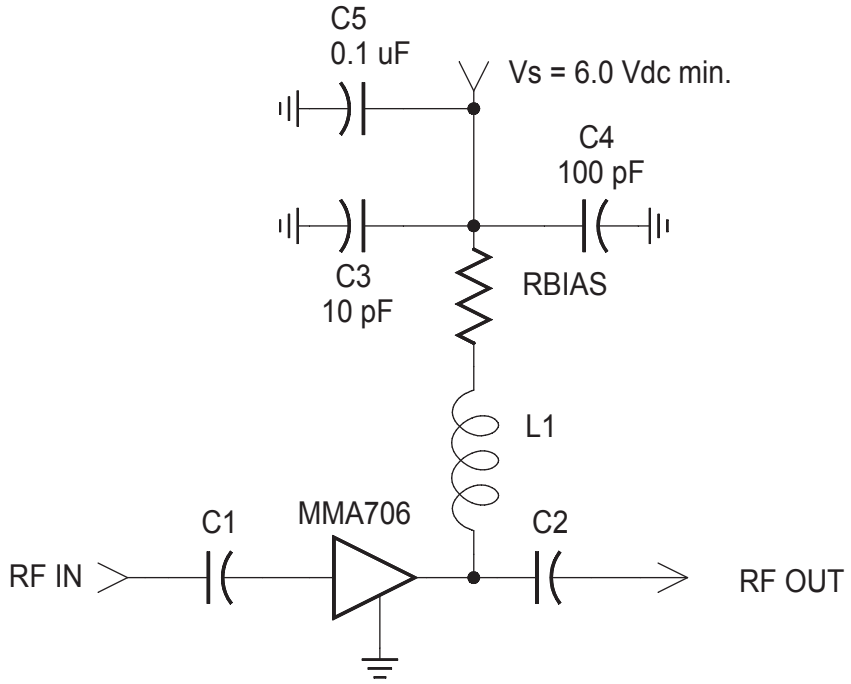
Application Circuit:



C1, C2, L1: $X_L >> 50\Omega$, $X_C << 50\Omega$

R_{BIAS} vs. V_S

V_S (V)	6.0	8.0	10.0	12.0	15.0
R_{BIAS} (Ω)	22	62	100	150	200
Power Dissipation (W)	0.05	0.15	0.25	0.34	0.48

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AEROFLEX
A passion for performance.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.